

S PN=JP 9249543  
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DIALOG(R) File 351:Derwent WPI  
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011545369

WPI Acc No: 1997-521850/ 199748

Jelly-form toiletry - contains hydrophobic water-absorbent powder, and alkyl modified carboxy-vinyl polymer.

Patent Assignee: KAO CORP (KAOS )

Number of Countries: 001 Number of Patents: 002

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
JP 9249543	A	19970922	JP 9660778	A	19960318	199748 B
JP 3291195	B2	20020610	JP 9660778	A	19960318	200241

Priority Applications (No Type Date): JP 9660778 A 19960318

Patent Details:

Patent No	Kind	Lan Pg	Main IPC	Filing Notes
JP 9249543	A	5	A61K-007/48	
JP 3291195	B2	5	A61K-007/48	Previous Publ. patent JP 9249543

Abstract (Basic): JP 9249543 A

The toiletry contains hydrophobic water-absorbent powder, alkyl-modified carboxyvinyl polymer and basic substance.

PREFERRED MATERIALS - The powder has at least 1.0g/g of absorption rate of squalane. It is polymer obtd. by polymerising one or more kind of vinylic monomer having 7-10 of solubility parameter.

ADVANTAGE - The toiletry disintegrates instantly on skin and can spread easily and shows no sticky feeling.

Dwg.0/0

Derwent Class: A96; D21

International Patent Class (Main): A61K-007/48

International Patent Class (Additional): A61K-007/00

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**CLAIMS**

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**[Claim(s)]**

[Claim 1] The charge of gel-like makeup characterized by containing hydrophobic oil absorption fine particles, an alkyl denaturation carboxyvinyl polymer, and an alkali.

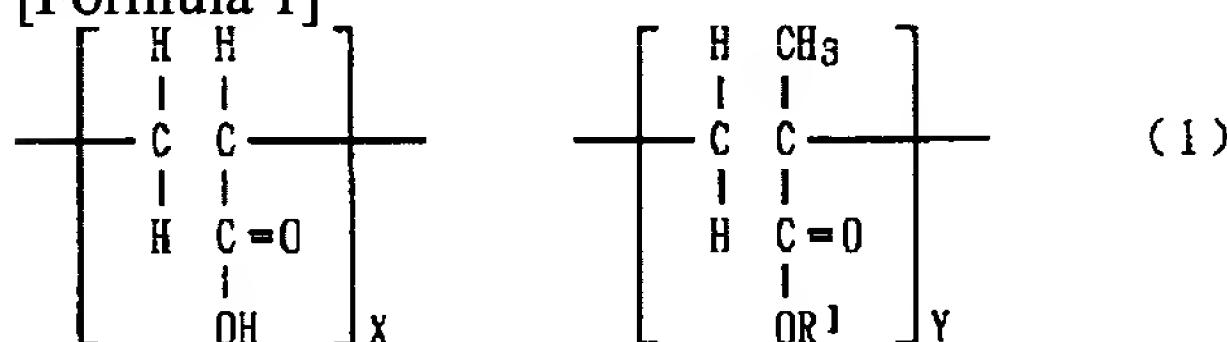
[Claim 2] The charge of gel-like makeup according to claim 1 whose hydrophobic oil absorption fine particles are 1.0 or more g/g of oil absorption of squalane.

[Claim 3] The charge of gel-like makeup according to claim 2 whose hydrophobic oil absorption fine particles are a polymerization and the polymer obtained by porosity-izing about one sort of the vinyl system monomer of solubility parameters 7-10, or two sorts or more.

[Claim 4] Hydrophobic oil absorption fine particles are 0.5-50 micrometers of mean diameters. Claim 2 or 3 charges of gel-like makeup which are spherical fine particles.

[Claim 5] The charge of gel-like makeup of claim 1-4 whose alkyl denaturation carboxyvinyl polymers are an acrylic acid and an alkyl methacrylate copolymer given in any 1 term.

[Claim 6] An acrylic acid and an alkyl methacrylate copolymer are the following general formula (1).

**[Formula 1]**

(Among a formula, R1 shows the alkyl group of carbon numbers 10-30, and X and Y show mol % of each configuration unit in a copolymer, respectively, and it is Y= 0.1-20.0-mol % X= 80.0-99.9-mol%).  
The charge of gel-like makeup according to claim 5 which has thing structure.

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**DETAILED DESCRIPTION**

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**[Detailed Description of the Invention]**

[0001]

[Field of the Invention] This invention relates to the charge of gel-like makeup which whose mileage at the time of applying to the skin is good for a detail, is moreover sticky in it, and does not have TEKARI by admiration and sebum in it further about the charge of gel-like makeup.

[0002]

[Description of the Prior Art] The carboxyvinyl polymer which is one of the water soluble polymers is a component useful as a gelling agent which manages structure preserving in an aquosity basis, and can obtain the charge of gel makeup of the feel which could hold moisture so much in the system and made it \*\*\*\*\* by using this. It is proposed by blending a hydrophobic silicic acid anhydride, organic powder, or inorganic powder with this conventionally that the charge of gel-like makeup without stickiness the feeling of a skid of the skin excelled [ charge ] in a good feeling of use is obtained (JP,4-108714,A, JP,6-116131,A).

[0003] However, the charge of gel makeup using the conventional carboxyvinyl polymer had the problem that the mileage on the skin was bad, when it extruded on the skin from the case where it takes with a finger from a container, or a tube container. Moreover, it was sticky with use of the above-mentioned fine particles, was still inadequate about a lack [ admiration ], and was what cannot prevent TEKARI by sebum further.

[0004]

[Problem(s) to be Solved by the Invention] Therefore, the purpose of this invention is to offer the charge of gel-like makeup which gel collapses in an instant when it applies, and is mileage-easy, is sticky on the skin, and does not have admiration and which prevents TEKARI of sebum.

[0005]

[Means for Solving the Problem] In this actual condition, it came to complete a header and this invention for the charge of gel-like makeup without TEKARI according [ as a result of inquiring wholeheartedly, when using it combining hydrophobic oil absorption fine particles, the alkyl denaturation carboxyvinyl polymer, and the alkali and this invention persons apply to the skin, mileage is good, and ] to a feeling of stickiness or sebum being obtained.

[0006] That is, this invention offers the charge of gel-like makeup containing hydrophobic oil absorption fine particles, an alkyl denaturation carboxyvinyl polymer, and an alkali.

[0007]

[Embodiment of the Invention] Especially as hydrophobic oil absorption fine particles used by this invention, although not restricted, 1.0 or more g/g of oil absorption of squalane is desirable, and especially 2 or more g/g is desirable. The oil absorption of squalane is JIS. What is necessary is just to measure based on the oil absorption measuring method of the pigment specified to K5101 (1978). That is, 1g of fine particles is taken on a glass plate, while squalane is dropped small quantity every, it scours using a spatula, and make the time of on the whole fine particles becoming paste-like into a terminal point, and let the amount of necessary squalane per 1g of fine particles (ml) be oil absorption. Although

boiled linseed oil is used as an oil by the JIS method, squalane is used from similarity with sebum by this method. Moreover, since hydration of the front face is carried out under water existence and the hydrophobic oil absorption fine particles concerned lose oil absorption ability (sebum absorbing power), they need to be hydrophobicity at hydrophilic oil absorption fine particles, such as a porosity silica and talc.

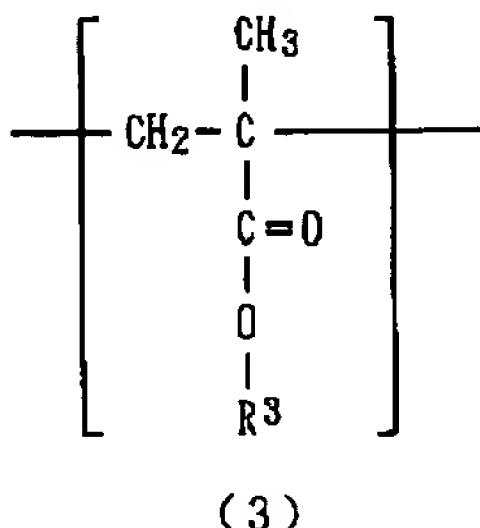
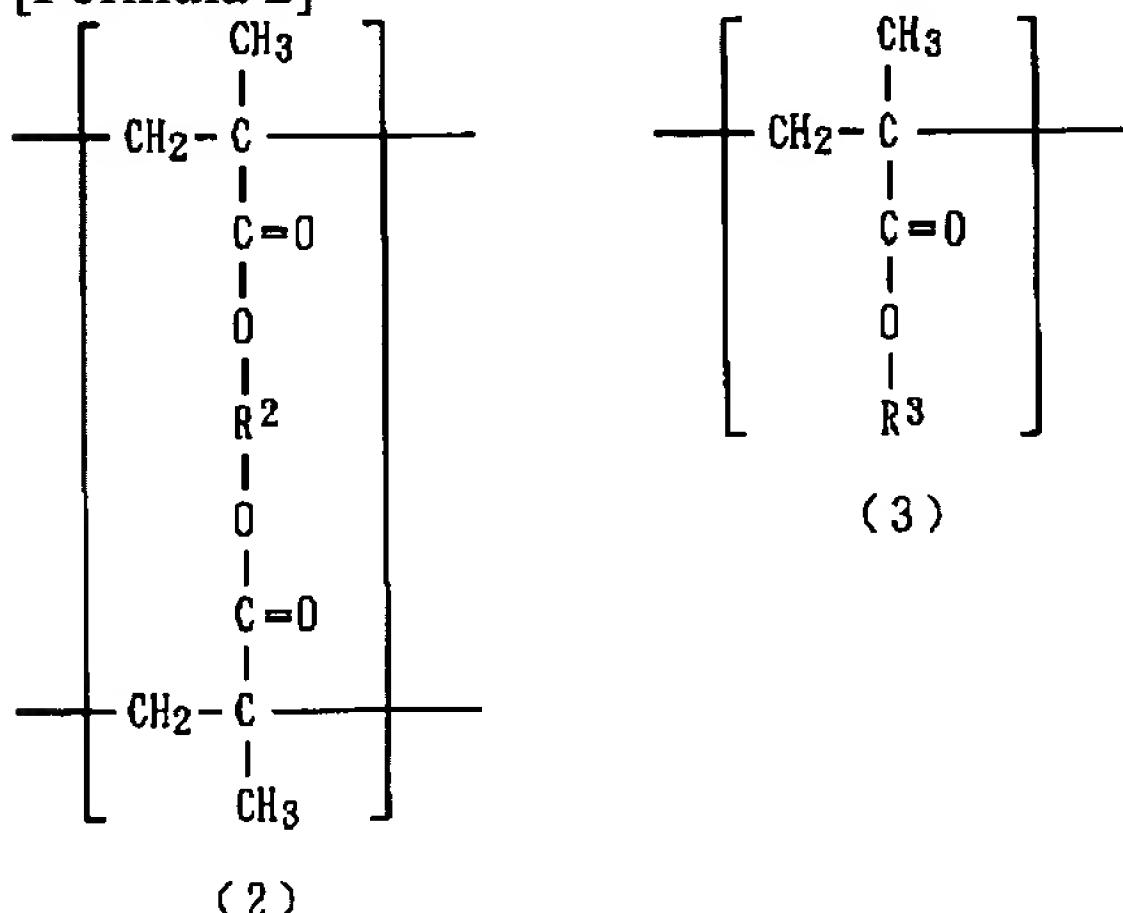
[0008] Moreover, as for the hydrophobic oil absorption fine particles used by this invention, it is desirable that they are a polymerization and the polymer obtained by porosity-izing about one sort of the vinyl system monomer of solubility parameters 7-10 or two sorts or more. The diolefin of the vinyl ester of the styrene derivative which has the hydrocarbon substituent which has the straight chain or branched chain of the ester of a methacrylic acid and the higher alcohol of carbon numbers 8-24, the ester of an acrylic acid and the higher alcohol of carbon numbers 8-24, styrene, or carbon numbers 1-12 as a vinyl system monomer of solubility parameters 7-10, for example, and the saturation carboxylic acid of carbon numbers 8-20, an acrylic acid, a methacrylic acid, and carbon numbers 4-6 etc. is mentioned. When the solubility parameter of a vinyl system monomer considers as the range of 7-10, compatibility with sebum is excellent and sufficient sebum absorbing power is acquired. These monomers are used combining independent or two or more sorts of monomers.

[0009] Moreover, that what is necessary is just to follow an approach given in JP,63-316715,A, the polymerization of the above-mentioned vinyl system monomer and porosity-ization dissolve this monomer in the organic solvent of non-polymerization nature, and carry out a polymerization in the condition of having made this solution suspending, distributing or emulsifying underwater further, and it is desirable after polymerization termination to carry out by removing this organic solvent.

[0010] Especially the mean particle diameter of the hydrophobic oil absorption fine particles used by this invention is 0.5-50 micrometers, although not restricted. It is desirable and is 1-20 micrometers. Considering as spherical fine particles is desirable from the point of a feel. as the example of these hydrophobic oil absorption fine particles -- the following general formulas (2), such as polymethylmethacrylate; poly traps (Dow Corning make), such as the dimethyl silicone bridge formation elastomer; microspheres M, such as porosity nylon powder; TOREFIRU E-506C (the Toray Industries Dow-Jones silicone company make), such as orgasole 2002 (product made from elf OTOKEMU), a microsphere M-100, a microsphere M-300, and a microsphere M-400 (the Matsumoto fats-and-oils company make), -- and (3) --

[0011]

[Formula 2]



[0012] (-- R2 and R3 show among a formula the same, the alkyl group which differs and has the shape of a straight chain and branched chain of carbon numbers 1-30, or an alkylene group.) -- the methacrylate copolymer; porosity vinyl system polymer which has the configuration unit expressed is mentioned.

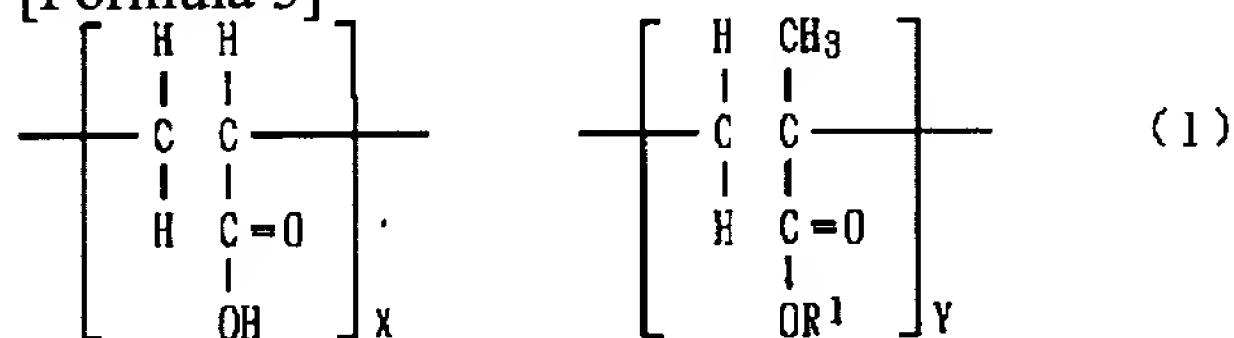
[0013] Moreover, the desirable loadings of the hydrophobic oil absorption fine particles in the charge of

gel-like makeup have 0.1 - 10 desirable % of the weight ("%" only shows hereafter), and it is desirable from the field of sebum absorbing power and a feel to consider as 0.5 - 5% especially.

[0014] Especially as an alkyl denaturation carboxyvinyl polymer used by this invention, although not restricted, it is the thickener of a drainage system and it is required to have the capacity which distributes the oil of a drainage system. Specifically, an acrylic acid and an alkyl methacrylate copolymer are mentioned as a desirable thing. As this acrylic acid and alkyl methacrylate copolymer, it is the following general formula (1).

[0015]

[Formula 3]



[0016] (-- R1 shows the alkyl group of carbon numbers 10-30 among a formula, and X and Y show mol % of each configuration unit which can boil and set a copolymer, respectively, and are Y= 0.1 - 20.0-mol % X= 80.0 - 99.9-mol%).) -- what has structure is desirable. In addition, as a commercial thing, they are Carbopol 1342 and PEMULEN. TR1, PEMULEN TR-2 (all are GUTTO rich company make) is mentioned.

[0017] One sort or two sorts or more may be mixed and used for an alkyl denaturation carboxyvinyl polymer, as for loadings, considering as 0.01 - 2% is desirable, and it is desirable from the point of shape retaining property and a feel to consider as 0.1 - 1% especially.

[0018] What is necessary is not to be restricted but just to neutralize the above-mentioned alkyl denaturation carboxyvinyl polymer especially as an alkali used by this invention. Specifically, organic amines, such as hydroxide; triethanolamines, such as basic-amino-acid; sodium hydroxides, such as L-arginine, L-lysine, a histidine, ORUCHININ, and canavanine, and a potassium hydroxide, 2-amino-2-methyl propanol, and ammonia, etc. are mentioned. Among these, skin irritation of basic amino acid is desirable from a low thing.

[0019] One sort or two sorts or more may be mixed and used for an alkali, and, as for loadings, it is desirable to consider as an amount from which pH of the constituent after neutralizing the above-mentioned alkyl denaturation carboxyvinyl polymer is set to 5-8.

[0020] It is the range which does not harm other arbitration components usually used for the charge of makeup in addition to the above-mentioned indispensable component for the effectiveness of this invention in the charge of gel-like makeup of this invention, and blending suitably is possible. As such an arbitration component, water soluble polymers other than the above, an antioxidant, an ultraviolet ray absorbent, a chelating agent, a coloring agent, perfume, the charge fine particles of makeup, antiseptics, lower alcohol, etc. are mentioned. However, not blending is sticky and a liquefied oil is desirable from the point of the TEKARI control by admiration and sebum.

[0021]

[Effect of the Invention] The charge of gel-like makeup of this invention has the outstanding feeling of use which gel collapses in an instant, is easy to lengthen on the skin, does not have a feeling of stickiness, and does not have TEKARI by sebum.

[0022]

[Example] Subsequently, although an example is given and this invention is explained further, this invention is not limited at all by this.

[0023] The charge of gel-like makeup of this invention article 1-4 of the presentation shown in example 1 table 1 and the comparison article 1-3 was prepared, and it evaluated about a lack [ the ease of lengthening at the time of applying on an appearance and the skin by ten special panelists, and a feeling of stickiness ], and the depressor effect of TEKARI. It is in the condition when applying a sample to a frame about a feeling of stickiness in the ease of lengthening on the skin, and the three-stage estimated

the TEKARI condition after after [ spreading ] 6-hour progress about the depressor effect of TEKARI. A result is shown in Table 1.

[0024] the ease of lengthening on the skin -- and valuation-basis O:good \*\*: of a lack [ a feeling of stickiness ] -- condition \*\*: without valuation-basis O:TEKARI of control of TEKARI a little Good x: inferior -- a condition [0025] with a condition x:fat float with a little TEKARI, and TEKARI

[Table 1]

(重量%)

組 成	本 発 明 品				比 較 品		
	1	2	3	4	1	2	3
アルキル変性カルボキシビニルポリマー(PEMULBN TR-1)	0.3	0.3	0.5	0.6	0.3		
アルキル変性カルボキシビニルポリマー(PEMULBN TR-2)	1.5	3	3			3	0.3
カルボキシビニルポリマー(カーボボール941)注1)							
多孔質ナイロンパウダー(オルガソール2002)注2)							
多孔質ビニル系ポリマー(特開昭63-316715、合成例2に記載の疎水性吸油粉体注3)							
ジメチルシリコーン架橋エラストマー(トレフィルE-506C)注4)				4			
球状ナイロンパウダー(ナイロンパウダーSP-500)注5)	0.15	0.2	0.2	0.3	3	0.15	0.15
水酸化カリウム		バランス	バランス	バランス	0.2	0.15	
L-アルギニン					バランス	バランス	
精製水					バランス	バランス	
外観(ジェル状態)	○	○	○	○	○	×	○
べとつき感	○	○	○	○	○	△	△
テカリの抑制効果	○	○	○	○	×	△	○
のばし易さ	○	○	○	○	○	×	×

注1) グッドリッチ社製

注2) 平均粒径 5 μm、スクワラン吸油量 2 g/g

注3) 平均粒径 3 μm、スクワラン吸油量 3 g/g

注4) 平均粒径 5 μm、スクワラン吸油量 2 g/g

注5) 東レ社製; 平均粒径 5 μm、スクワラン吸油量 0.5 g/g

### [0026]

Example 2 Gel-like constituent component for faces Loadings (%)

A porosity vinyl system polymer 2.0 Glycerol 2.0 Ethanol 5.0 Alkyl denaturation carboxyvinyl polymer

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**TECHNICAL FIELD**

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[Field of the Invention] This invention relates to the charge of gel-like makeup which whose mileage at the time of applying to the skin is good for a detail, is moreover sticky in it, and does not have TEKARI by admiration and sebum in it further about the charge of gel-like makeup.

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**PRIOR ART**

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[Description of the Prior Art] The carboxyvinyl polymer which is one of the water soluble polymers is a component useful as a gelling agent which manages structure preserving in an aquosity basis, and can obtain the charge of gel makeup of the feel which could hold moisture so much in the system and made it \*\*\*\*\* by using this. It is proposed by blending a hydrophobic silicic acid anhydride, organic powder, or inorganic powder with this conventionally that the charge of gel-like makeup without stickiness the feeling of a skid of the skin excelled [ charge ] in a good feeling of use is obtained (JP,4-108714,A, JP,6-116131,A).

[0003] However, the charge of gel makeup using the conventional carboxyvinyl polymer had the problem that the mileage on the skin was bad, when it extruded on the skin from the case where it takes with a finger from a container, or a tube container. Moreover, it was sticky with use of the above-mentioned fine particles, was still inadequate about a lack [ admiration ], and was what cannot prevent TEKARI by sebum further.

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**EFFECT OF THE INVENTION**

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[Effect of the Invention] The charge of gel-like makeup of this invention has the outstanding feeling of use which gel collapses in an instant, is easy to lengthen on the skin, does not have a feeling of stickiness, and does not have TEKARI by sebum.

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**TECHNICAL PROBLEM**

[Problem(s) to be Solved by the Invention] Therefore, the purpose of this invention is to offer the charge of gel-like makeup which gel collapses in an instant when it applies, and is mileage-easy, is sticky on the skin, and does not have admiration and which prevents TEKARI of sebum.

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**MEANS**

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[Means for Solving the Problem] In this actual condition, it came to complete a header and this invention for the charge of gel-like makeup without TEKARI according [ as a result of inquiring wholeheartedly, when using it combining hydrophobic oil absorption fine particles, the alkyl denaturation carboxyvinyl polymer, and the alkali and this invention persons apply to the skin, mileage is good, and ] to a feeling of stickiness or sebum being obtained.

[0006] That is, this invention offers the charge of gel-like makeup containing hydrophobic oil absorption fine particles, an alkyl denaturation carboxyvinyl polymer, and an alkali.

[0007]

[Embodiment of the Invention] Especially as hydrophobic oil absorption fine particles used by this invention, although not restricted, 1.0 or more g/g of oil absorption of squalane is desirable, and especially 2 or more g/g is desirable. The oil absorption of squalane is JIS. What is necessary is just to measure based on the oil absorption measuring method of the pigment specified to K5101 (1978). That is, 1g of fine particles is taken on a glass plate, while squalane is dropped small quantity every, it scours using a spatula, and make the time of on the whole fine particles becoming paste-like into a terminal point, and let the amount of necessary squalane per 1g of fine particles (ml) be oil absorption. Although boiled linseed oil is used as an oil by the JIS method, squalane is used from similarity with sebum by this method. Moreover, since hydration of the front face is carried out under water existence and the hydrophobic oil absorption fine particles concerned lose oil absorption ability (sebum absorbing power), they need to be hydrophobicity at hydrophilic oil absorption fine particles, such as a porosity silica and talc.

[0008] Moreover, as for the hydrophobic oil absorption fine particles used by this invention, it is desirable that they are a polymerization and the polymer obtained by porosity-izing about one sort of the vinyl system monomer of solubility parameters 7-10 or two sorts or more. The diolefin of the vinyl ester of the styrene derivative which has the hydrocarbon substituent which has the straight chain or branched chain of the ester of a methacrylic acid and the higher alcohol of carbon numbers 8-24, the ester of an acrylic acid and the higher alcohol of carbon numbers 8-24, styrene, or carbon numbers 1-12 as a vinyl system monomer of solubility parameters 7-10, for example, and the saturation carboxylic acid of carbon numbers 8-20, an acrylic acid, a methacrylic acid, and carbon numbers 4-6 etc. is mentioned. When the solubility parameter of a vinyl system monomer considers as the range of 7-10, compatibility with sebum is excellent and sufficient sebum absorbing power is acquired. These monomers are used combining independent or two or more sorts of monomers.

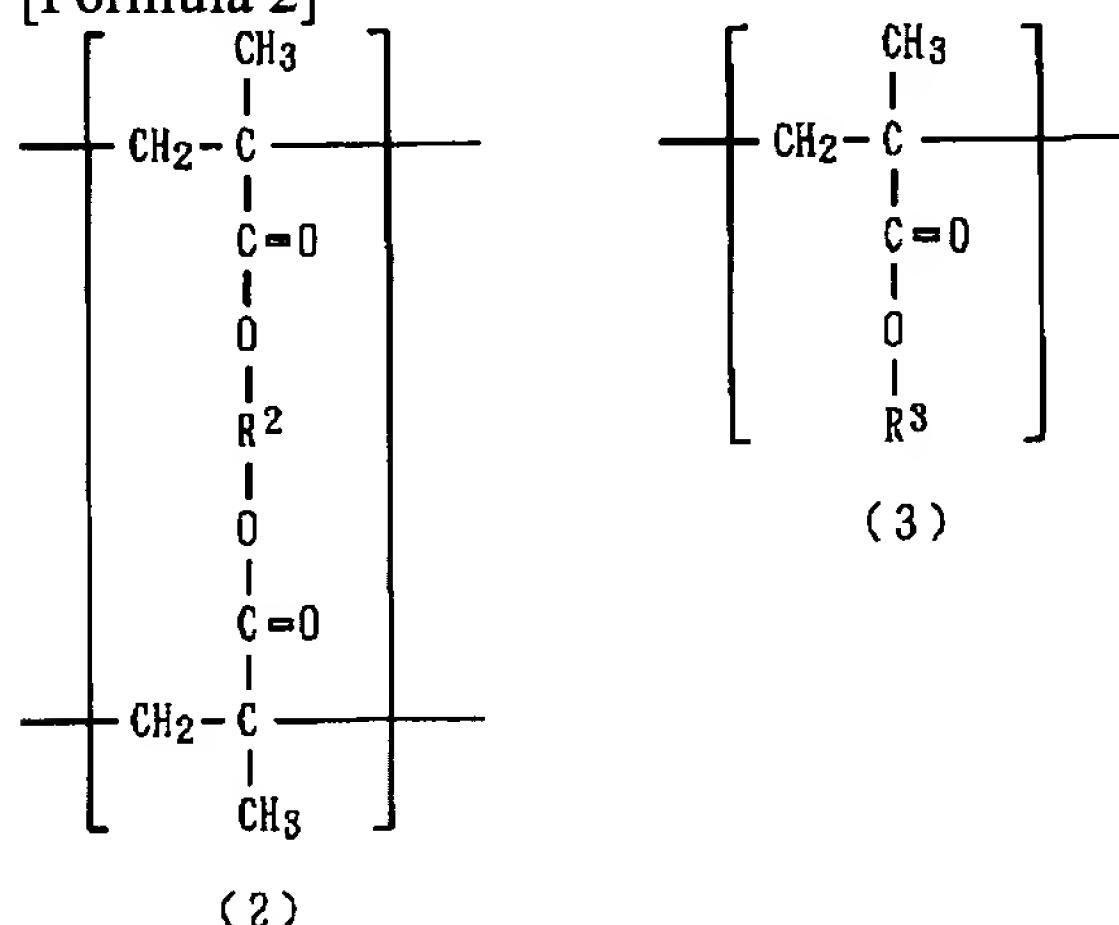
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[0010] Especially the mean particle diameter of the hydrophobic oil absorption fine particles used by this invention is 0.5-50 micrometers, although not restricted. It is desirable and is 1-20 micrometers.

Considering as spherical fine particles is desirable from the point of a feel. as the example of these hydrophobic oil absorption fine particles -- the following general formulas (2), such as polymethylmethacrylate; poly traps (Dow Corning make), such as the dimethyl silicone bridge formation elastomer; microspheres M, such as porosity nylon powder; TOREFIRU E-506C (the Toray Industries Dow-Jones silicone company make), such as orgasole 2002 (product made from elf OTOKEMU), a microsphere M-100, a microsphere M-300, and a microsphere M-400 (the Matsumoto fats-and-oils company make), -- and (3) --

[0011]

[Formula 2]



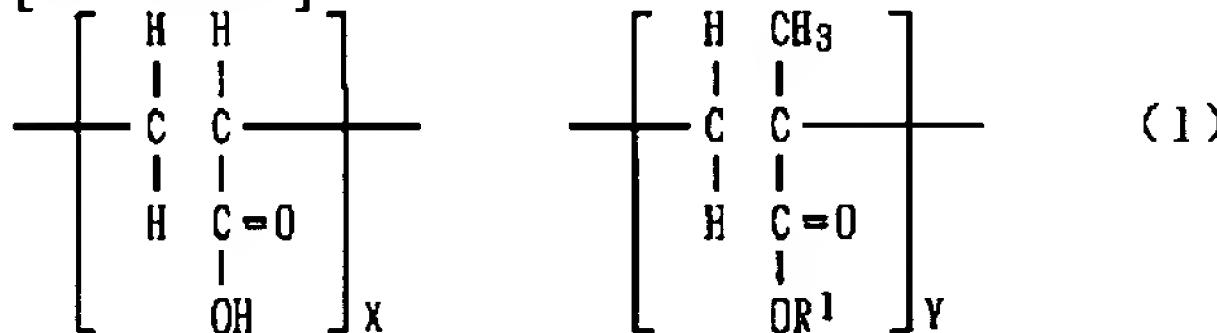
[0012] (--  $\text{R}^2$  and  $\text{R}^3$  show among a formula the same, the alkyl group which differs and has the shape of a straight chain and branched chain of carbon numbers 1-30, or an alkylene group.) -- the methacrylate copolymer; porosity vinyl system polymer which has the configuration unit expressed is mentioned.

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[Formula 3]



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[0020] It is the range which does not harm other arbitration components usually used for the charge of makeup in addition to the above-mentioned indispensable component for the effectiveness of this invention in the charge of gel-like makeup of this invention, and blending suitably is possible. As such an arbitration component, water soluble polymers other than the above, an antioxidant, an ultraviolet ray absorbent, a chelating agent, a coloring agent, perfume, the charge fine particles of makeup, antiseptics, lower alcohol, etc. are mentioned. However, not blending is sticky and a liquefied oil is desirable from the point of the TEKARI control by admiration and sebum.

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## EXAMPLE

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[0023] The charge of gel-like makeup of this invention article 1-4 of the presentation shown in example 1 table 1 and the comparison article 1-3 was prepared, and it evaluated about a lack [ the ease of lengthening at the time of applying on an appearance and the skin by ten special panelists, and a feeling of stickiness ], and the depressor effect of TEKARI. It is in the condition when applying a sample to a frame about a feeling of stickiness in the ease of lengthening on the skin, and the three-stage estimated the TEKARI condition after after [ spreading ] 6-hour progress about the depressor effect of TEKARI. A result is shown in Table 1.

[0024] the ease of lengthening on the skin -- and valuation-basis O:good \*\*: of a lack [ a feeling of stickiness ] -- condition \*\*: without valuation-basis O:TEKARI of control of TEKARI a little Good x: inferior -- a condition [0025] with a condition x:fat float with a little TEKARI, and TEKARI

[Table 1]

(重量%)

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アルキル変性カルボキシビニルポリマー(PEMULBN TR-2)							
カルボキシビニルポリマー(カーボポール941)注1)	1.5	3	3	4		3	0.3
多孔質ナイロンパウダー(オルガソール2002)注2)							
多孔質ビニル系ポリマー(特開昭63-316715、合成例2に記載の疎水性吸油粉体注3)							
ジメチルシリコーン架橋エラストマー(トレフィルE-506C)注4)	0.15	0.2	0.2	0.3	0.2	0.15	0.15
球状ナイロンパウダー(ナイロンパウダーSP-500)注5)	バランス	バランス	バランス	バランス	バランス	バランス	バランス
水酸化カリウム							
L-アルギニン							
精製水							
外観(ジェル状態)	○	○	○	○	○	×	○
べとつき感	○	○	○	○	○	△	△
テカリの抑制効果	○	○	○	○	×	△	○
のばし易さ	○	○	○	○	○	×	×

注1) グッドリッチ社製

注2) 平均粒径 5  $\mu\text{m}$ 、スクワラン吸油量 2 g/g

注3) 平均粒径 3  $\mu\text{m}$ 、スクワラン吸油量 3 g/g

注4) 平均粒径 5  $\mu\text{m}$ 、スクワラン吸油量 2 g/g

注5) 東レ社製; 平均粒径 5  $\mu\text{m}$ 、スクワラン吸油量 0.5 g/g

[0026]

Example 2 Gel-like constituent component for faces Loadings (%)

A porosity vinyl system polymer 2.0 Glycerol 2.0 Ethanol 5.0 Alkyl denaturation carboxyvinyl polymer 0.3 L-arginine

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(54)【発明の名称】 ジェル状化粧料

(57)【要約】

【解決手段】疎水性吸油粉体、アルキル変性カルボキシビニルポリマー及び塩基性物質を含有するジェル状化粧料。

【効果】肌上で瞬時にジェルが崩壊し、のばし易く、べとつき感がなく、皮脂によるテカリのない優れた使用感を有する。

## 【特許請求の範囲】

【請求項1】疎水性吸油粉体、アルキル変性カルボキシビニルポリマー及び塩基性物質を含有することを特徴とするジェル状化粧料。

【請求項2】疎水性吸油粉体が、スクワランの吸油量1.0g/g以上である請求項1記載のジェル状化粧料。

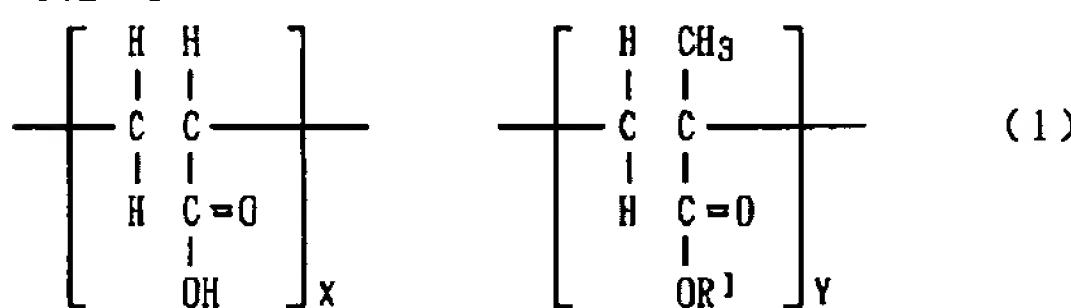
【請求項3】疎水性吸油粉体が、溶解度パラメーター7~10のビニル系モノマーの1種又は2種以上を重合及び多孔質化して得られるポリマーである請求項2記載のジェル状化粧料。

【請求項4】疎水性吸油粉体が、平均粒径0.5~5.0μmの球状粉体である請求項2又は3のジェル状化粧料。

【請求項5】アルキル変性カルボキシビニルポリマーが、アクリル酸・メタクリル酸アルキル共重合体である請求項1~4のいずれか1項記載のジェル状化粧料。

【請求項6】アクリル酸・メタクリル酸アルキル共重合体が、次の一般式(1)

【化1】



(式中、R<sup>1</sup>は炭素数10~30のアルキル基を示し、X及びYはそれぞれ共重合体における各構成単位のモル%を示し、X=80.0~99.9モル%、Y=0.1~20.0モル%である。)の構造を有する請求項5記載のジェル状化粧料。

## 【発明の詳細な説明】

## 【0001】

【発明の属する技術分野】本発明はジェル状化粧料に関し、更に詳細には、皮膚に塗布した場合ののびがよく、しかもべとつき感及び皮脂によるテカリのないジェル状化粧料に関する。

## 【0002】

【従来の技術】水溶性高分子のひとつであるカルボキシビニルポリマーは、水性基剤において構造保持をつかさどるゲル化剤として有用な成分であり、これを用いることにより水分を系に多量に保持でき、水々しくさっぱりとした感触のゲル状化粧料を得ることができる。従来、これに、疎水性無水ケイ酸又は有機粉末若しくは無機粉末を配合することによりべたつきのない、肌のすべり感がよい、使用感に優れたジェル状化粧料が得られることが提案されている(特開平4-108714号公報、特開平6-116131号公報)。

【0003】しかしながら、従来のカルボキシビニルポリマーを用いたゲル状化粧料は、容器から指で取った場合やチューブ容器から肌上に押し出した場合に、肌上で

ののびが悪いという問題があった。また、上記粉体の使用によってもべたつき感のなさについては未だ不十分であり、更に皮脂によるテカリを防止することはできないものであった。

## 【0004】

【発明が解決しようとする課題】従って、本発明の目的は、塗布した際に瞬時にジェルが崩壊し、肌上でのび易く、べたつき感のない、皮脂のテカリを防止するジェル状化粧料を提供することにある。

## 【0005】

【課題を解決するための手段】斯かる実情において、本発明者らは鋭意検討を行った結果、疎水性吸油粉体、アルキル変性カルボキシビニルポリマー及び塩基性物質を組合せて使用すれば、皮膚に塗布した際、のびがよく、べとつき感や皮脂によるテカリのないジェル状化粧料が得られることを見出し、本発明を完成するに至った。

【0006】すなわち、本発明は、疎水性吸油粉体、アルキル変性カルボキシビニルポリマー及び塩基性物質を含有するジェル状化粧料を提供するものである。

## 【0007】

【発明の実施の形態】本発明で用いられる疎水性吸油粉体としては、特に制限されないが、スクワランの吸油量1.0g/g以上が好ましく、特に2g/g以上が好ましい。スクワランの吸油量は、JIS K5101(1978年)に規定される顔料の吸油量測定法に準拠して測定すればよい。即ち、粉体1gをガラス板上に取り、スクワランを少量ずつ滴下しながらヘラを用いて練り込み、粉体が全体的にペースト状になったときを終点とし、粉体1gあたりの所要スクワラン量(ml)を吸油量とする。JIS法では油として煮あまに油を用いるが、本法では皮脂との類似性からスクワランを用いる。また、当該疎水性吸油粉体は、多孔質シリカ、タルク等の親水性吸油粉体では、水存在下、表面が水和され、吸油能(皮脂吸収能)を失うことから疎水性であることが必要である。

【0008】また、本発明で用いる疎水性吸油粉体は、溶解度パラメーター7~10のビニル系モノマーの1種又は2種以上を重合及び多孔質化して得られるポリマーであることが好ましい。溶解度パラメーター7~10のビニル系モノマーとしては、例えば、メタクリル酸と炭素数8~24の高級アルコールとのエステル、アクリル酸と炭素数8~24の高級アルコールとのエステル、ステレン若しくは炭素数1~12の直鎖若しくは分岐鎖を有する炭化水素置換基をもつステレン誘導体、炭素数8~20の飽和カルボン酸のビニルエステル、アクリル酸、メタクリル酸、炭素数4~6のジオレフィンなどが挙げられる。ビニル系モノマーの溶解度パラメーターが7~10の範囲とすることにより、皮脂との相溶性が優れ、十分な皮脂吸収能が得られる。これらのモノマー

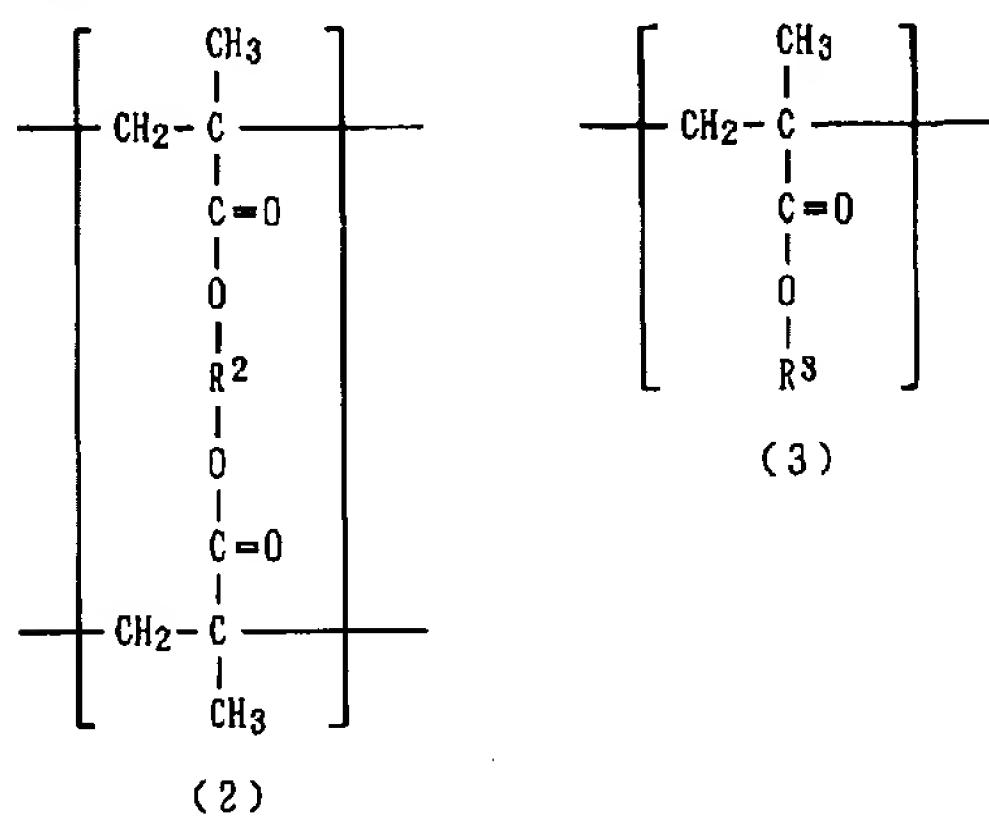
は、単独若しくは2種以上のモノマーを組合わせて用いられる。

【0009】また、上記ビニル系モノマーの重合及び多孔質化は、特開昭63-316715号公報に記載の方法に従えばよく、該モノマーを非重合性の有機溶剤に溶解し、更にこの溶液を水中に懸濁、分散あるいは乳化させた状態で重合し、重合終了後、該有機溶剤を除去することにより行なうことが好ましい。

【0010】本発明で用いる疎水性吸油粉体の平均粒径は、特に制限されないが、 $0.5\sim50\mu\text{m}$ が好ましく、 $1\sim20\mu\text{m}$ の球状粉体とすることが、感触の点から好ましい。かかる疎水性吸油粉体の具体例としては、オルガソール2002（エルフ オートケム社製）等の多孔質ナイロンパウダー；トレフィルE-506C（東レ・ダウ・シリコーン社製）等のジメチルシリコーン架橋エラストマー；マイクロスフェア-M、マイクロスフェア-M-100、マイクロスフェア-M-300、マイクロスフェア-M-400（松本油脂社製）等のポリメチルメタクリレート；ポリトラップ（ダウ・コーニング社製）等の次の一般式(2)及び(3)

#### 【0011】

#### 【化2】



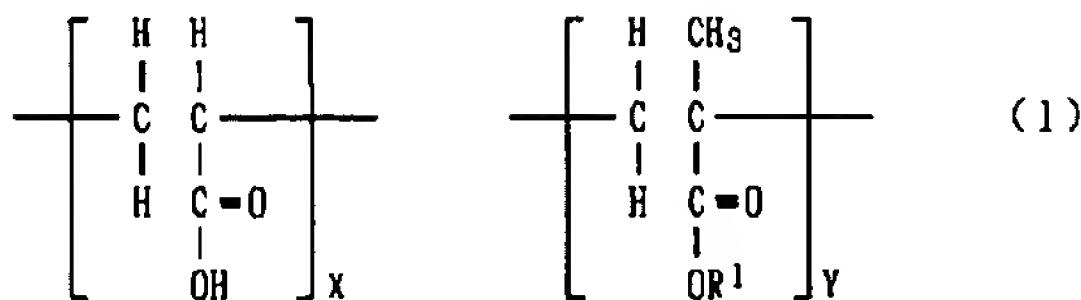
【0012】(式中、R<sup>2</sup> 及びR<sup>3</sup> は同一又は異なって炭素数1～30の直鎖状又は分岐鎖を有するアルキル基又はアルキレン基を示す。)で表わされる構成単位を有するメタクリレート共重合体；多孔質ビニル系ポリマー等が挙げられる。

【0013】また、ジェル状化粧料中の疎水性吸油粉体の好ましい配合量は、 $0.1\sim10$ 重量%（以下、単に「%」で示す）が好ましく、特に、 $0.5\sim5\%$ とすることが皮脂吸収能と感触の面から好ましい。

【0014】本発明で用いるアルキル変性カルボキシビニルポリマーとしては、特に制限されないが、水系の増粘剤で、水系の油を分散する能力を有することが必要である。具体的には、例えば、アクリル酸・メタクリル酸アルキル共重合体が好ましいものとして挙げられる。かかるアクリル酸・メタクリル酸アルキル共重合体としては、次の一般式(1)

#### 【0015】

#### 【化3】



【0016】(式中、R<sup>1</sup> は炭素数10～30のアルキル基を示し、X及びYはそれぞれ共重合体をにおける各構成単位のモル%を示し、X=80.0～99.9モル%、Y=0.1～20.0モル%である。)の構造を有するものが好ましい。なお、市販のものとしては、カーボポール1342、PEMULEN TR1、PEMULEN TR-2（いずれもグットリッチ社製）が挙げられる。

【0017】アルキル変性カルボキシビニルポリマーは、1種又は2種以上を混合して用いてもよく、配合量は $0.01\sim2\%$ とすることが好ましく、特に $0.1\sim1\%$ とすることが保型性と感触の点から好ましい。

【0018】本発明で用いられる塩基性物質としては、特に制限されず、上記アルキル変性カルボキシビニルポリマーを中和するものであればよい。具体的には、L-アルギニン、L-リジン、ヒスチジン、オルチニン、カナバニン等の塩基性アミノ酸；水酸化ナトリウム、水酸化カリウム等の水酸化物；トリエタノールアミン、2-アミノ-2-メチルプロパノール、アンモニア等の有機アミン等が挙げられる。このうち、塩基性アミノ酸が皮膚刺激性が低いことから好ましい。

【0019】塩基性物質は、1種又は2種以上を混合して用いてもよく、配合量は、上記アルキル変性カルボキシビニルポリマーを中和した後の組成物のpHが5～8となるような量とすることが好ましい。

【0020】本発明のジェル状化粧料には上記必須成分以外に通常化粧料に用いられる他の任意成分を本発明の効果を損なわない範囲で、適宜配合することが可能である。このような任意成分としては、上記以外の水溶性高分子、酸化防止剤、紫外線吸収剤、キレート剤、着色剤、香料、化粧料粉体、防腐剤、低級アルコール等が挙げられる。しかし、液状油は配合しないことがべとつき感及び皮脂によるテカリ抑制の点から好ましい。

#### 【0021】

【発明の効果】本発明のジェル状化粧料は、肌上で瞬時にジェルが崩壊し、のばし易く、べとつき感がなく、皮脂によるテカリのない優れた使用感を有する。

#### 【0022】

【実施例】次いで実施例を挙げて本発明を更に説明するが、本発明はこれによって何ら限定されるものではない。

#### 【0023】実施例1

表1に示す組成の本発明品1～4及び比較品1～3のジ

エル状化粧料を調製し、専門パネラー10名により外観、肌上に塗布した際ののばし易さ及びべとつき感のなさ並びにテカリの抑制効果について評価した。肌上でののばし易さ、べとつき感については、サンプルを額に塗布した時の状態で、テカリの抑制効果については、塗布後6時間経過後のテカリ状態について3段階で評価した。結果を表1に示す。

【0024】肌上でののばし易さ及びべとつき感のなさの評価基準

○：良  
△：やや良  
×：劣る  
テカリの抑制の評価基準  
○：テカリのない状態  
△：少しテカリがある状態  
×：脂浮き、テカリがある状態

【0025】

【表1】

(重量%)

組成	本発明品				比較品		
	1	2	3	4	1	2	3
アルキル変性カルボキシビニルポリマー(PEMULBN TR-1) アルキル変性カルボキシビニルポリマー(PEMULBN TR-2) カルボキシビニルポリマー(カーボボール941)注1) 多孔質ナイロンパウダー(オルガソール2002)注2) 多孔質ビニル系ポリマー(特開昭63-316715、合成例2に記載の疎水性吸油粉体注3) ジメチルシリコーン架橋エラストマー(トレフィルE-5060)注4) 球状ナイロンパウダー(ナイロンパウダーSP-500)注5) 水酸化カリウム L-アルギニン 精製水	0.3 1.5 0.15 バランス	0.3 3 0.2 バランス	0.5 3 0.2 バランス	0.6 4 0.3 バランス	0.3 3 3 バランス	0.3 0.15 0.15 バランス	0.3 0.15 0.15 バランス
外観(ジェル状態) べとつき感 テカリの抑制効果 のばし易さ	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	○ ○ ○ ○	×	△ ○ ○ ×

注1) グッドリッチ社製

注2) 平均粒径 5 μm、スクワラン吸油量 2 g/g

注3) 平均粒径 3 μm、スクワラン吸油量 3 g/g

注4) 平均粒径 5 μm、スクワラン吸油量 2 g/g

注5) 東レ社製；平均粒径 5 μm、スクワラン吸油量 0.5 g/g

【0026】

### 実施例2 フェイス用ジェル状組成物

成分	配合量 (%)
多孔質ビニル系ポリマー	2.0
グリセリン	2.0
エタノール	5.0
アルキル変性カルボキシビニルポリマー	0.3
L-アルギニン	0.2
パラオキシ安息香酸メチル	0.1
水	残部
合計	100.0

製法：アルキル変性カルボキシビニルポリマーを水に溶解し、グリセリン等の成分を順次加えて、L-アルギニ

ンで中和してフェイス用ジェル状化粧料を調製した。

【0027】

### 実施例3 ボディ用ジェル状組成物

成分	配合量 (%)
多孔質ナイロンパウダー	2.0
ポリオキシエチレン硬化ヒマシ油(60E.O.)	1.0
グリセリン	1.0
エタノール	2.0
アルキル変性カルボキシビニルポリマー	0.3
水酸化カリウム	0.15
オキシベンゾン	0.1
パラオキシ安息香酸メチル	0.1

香料	0. 1
<u>水</u>	<u>残部</u>
合計	100. 0

製法：実施例2と同様の手順で調製した。

【0028】

実施例4 ハンド用ジェル状組成物

成分	配合量 (%)
ジメチルシリコーン架橋エラストマー	2. 0
ポリオキシエチレン硬化ヒマシ油 (60E.O.)	1. 0
1, 3-ブチレングリコール	3. 0
グリセリン	3. 0
アルキル変性カルボキシビニルポリマー	0. 5
トリエタノールアミン	0. 5
オキシベンゾン	0. 1
アロエ抽出エキス	0. 5
パラオキシ安息香酸メチル	0. 1
香料	0. 1
<u>水</u>	<u>残部</u>
合計	100. 0

製法：実施例2と同様の手順で調製した。

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